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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,233	10/08/2003	Hendrik F. Hamann	YOR920030264US1	4043

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EXAMINER	
CHERVINSKY, BORIS LEO	

ART UNIT	PAPER NUMBER
2835	

DATE MAILED: 02/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/680,233	HAMANN ET AL.	
	Examiner	Art Unit	
	Boris L. Chervinsky	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 January 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-24,26 and 27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-24,26 and 27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 January 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 9 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant did not disclose or even mentioned any the known or possibly new method of converting heat into electrical or mechanical energy by using chemical reaction.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3, 7, 8, 10, 14-18, 24, 26, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadayon et al. in view of Bhatia et al.

Tadayon discloses an assembly including at least one microprocessor (see col. 3, lines 1-3 indicating CPU as a heat generating component), comprising: means for recycling heat 206, 208 generated by at least one microprocessor 218 to energy, and cooling the at least one microprocessor 218; and means for directing the heat 210, 224, 204, 226 from said at least one microprocessor 218 to the means for recycling heat 206, 208; the means for directing the heat comprises a medium flowing from the at least one microprocessor to the means for recycling heat; the medium comprises air and water;

the assembly generates the electrical energy supplied to the power grid (the battery considering broadly is a power grid) and sequentially to the rechargeable battery 232 (claim 3); the means for directing the heat comprises at least one of means for conduction, means for convection and means for mass transport (claim 10). Method steps of claim 24, 25 are necessitated by the device structure as disclosed by Tadayon et al. Tadayon discloses the claimed invention except having the energy produced by utilizing the heat being used to cool the microprocessor. Bhatia discloses the system that utilizes the energy produced by the heat generating component to feed cooling fan and to cool the component. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have the energy generated in the device disclosed by Tadayon for cooling the heat generating component as disclosed by Bhatia as to provide additional cooling for critical component.

Tadayon discloses the claimed invention except thermoelectric circuit.

Bhatia discloses thermoelectric circuit as means to convert thermal energy to the electrical energy including the array of thermocouples. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use thermoelectric circuit for recycling thermal energy as disclosed by Bhatia in the device disclosed by Tadayon in order to simplify the structure.

3. Claims 4-6, 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadayon et al. in view of Bhatia et al. and further in view of Thiesen et al. or, as an alternative, see Chrysler et al. or Hill

Tadayon discloses the claimed invention but does not disclose the heat engine as means for recycling heat including the hot and cold reservoirs 210, 234 (claim 20). Thiesen discloses the heat engine as means to be used for cooling and power generation (see abstract). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use heat engine including Stirling heat engine or Ericcson heat engine or thermoacoustic heat engine in the device disclosed by Tadayon et al. to generate energy since these type of engines are well known and used in similar arrangements as admitted in the instant application (see specification Page 13, and Page 15) and disclosed by Thiesen, therefore it would be a matter of obvious design choice to use the one that is most efficient in particular situation. The hot and cold reservoirs of the heat engine (claim 20) are also disclosed by Hill; the reference is not applied at this time.

4. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadayon et al. in view of Bhatia et al.

Tadayon discloses the claimed invention except specific materials used for a thermal contact with the microprocessor. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use copper or aluminum or other known thermoconductive materials, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Boris L. Chervinsky whose telephone number is 571-272-2039. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on 571-272-2800 ext. 35. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BORIS CHERVINSKY
PRIMARY EXAMINER

2/16/5